

CLAIMS

1. A cannula supporting coil, comprising:  
a thin resilient elongated member, comprising:
  - a) a proximal portion comprising a clip portion for capturing a side port of an endoscopic or arthroscopic cannula;
  - b) an intermediate portion; and,
  - c) a distal portion having a plurality of revolutions to accommodate the main body of the cannula, a terminal portion of a final revolution of said distal portion having less curvature than previous portions of said distal portion for anchoring to an anatomical cavity lining of an anatomical cavity.
2. The cannula supporting coil of Claim 1 wherein said terminal portion of said final revolution is substantially straight.
3. The cannula supporting coil of Claim 1 wherein said thin resilient elongated member comprises memory wire.
4. The cannula supporting coil of Claim 1 wherein said thin resilient elongated member comprises Nitinol memory wire.
5. The cannula supporting coil of Claim 1 wherein said thin resilient elongated member is formed of plastic.
6. The cannula supporting coil of Claim 1 wherein said thin resilient elongated member comprises wire having a diameter in a range of 1-5 mm.
7. The cannula supporting coil of Claim 1 wherein said thin resilient elongated member comprises wire having a diameter about 2 mm.
8. The cannula supporting coil of Claim 1 wherein said plurality of revolutions is in a range of 2-5.
9. The cannula supporting coil of Claim 1 wherein said plurality of revolutions comprises 3 revolutions.

10. The cannula supporting coil of Claim 1 wherein said clip portion comprises a loop of said thin resilient elongated member for wrapping around the side port of the cannula.
11. The cannula supporting coil of Claim 1 wherein said clip portion comprises a loop of said thin resilient elongated member for wrapping around the side port of the cannula, said loop having a diameter of about 5mm.
12. A cannula delivery and support system, comprising:
  - a) a cannula supporting coil comprising:
    - a thin resilient elongated member, comprising:
      - i) a proximal portion comprising a clip portion for capturing a side port of an endoscopic or arthroscopic cannula;
      - ii) an intermediate portion; and,
      - iii) a distal portion having a plurality of revolutions to accommodate the main body of the cannula, a terminal portion of a final revolution of said distal portion having less curvature than previous portions of said distal portion for anchoring to an anatomical cavity lining of an anatomical cavity;
  - b) an elongated sheath for containing said cannula supporting coil during delivery of said cannula supporting coil to the anatomical cavity; and,
  - c) an elongated trocar having an upper portion and a lower portion, said upper portion having an outer surface slightly smaller than an inner surface of said elongated sheath, said lower portion having a diameter less than said revolutions of said distal portion of said cannula supporting coil so as to maintain said revolutions of said distal portion of said cannula supporting coil about said lower portion, said lower portion terminating in an atraumatic end,wherein said lower portion of said trocar, said sheath, and said cannula supporting coil are introduced into the anatomical cavity as a single unit, said trocar being removed and inverted so that said upper end thereof is utilized as a plunger to push the cannula supporting coil toward a lower end of said elongated sheath thus allowing removal of said sheath to allow placement of said cannula supporting coil and subsequent placement of the cannula.
13. The cannula delivery and support system of Claim 12 wherein said elongated sheath is formed of metal.

14. The cannula delivery and support system of Claim 12 wherein said elongated sheath is formed of plastic.
15. The cannula delivery and support system of Claim 12 wherein said elongated sheath has a blunt end.
16. The cannula delivery and support system of Claim 12 wherein said elongated sheath has a diameter in a range of between about 8 and 25 mm.
17. The cannula delivery and support system of Claim 12 wherein said upper portion of said trocar has a circular cross-section with a diameter in a range of between 8 and 25 mm.
18. The cannula delivery and support system of Claim 12 wherein said lower portion of said trocar has a circular cross-section with a diameter in a range of between 5 and 15 mm.
19. The cannula delivery and support system of Claim 12 wherein said upper portion of said trocar has a truncated circular cross-section.
20. The cannula delivery and support system of Claim 12 wherein said upper portion of said trocar has a truncated circular cross-section of about  $\frac{3}{4}$  of a circle.
21. The cannula supporting coil of Claim 12 wherein said terminal portion of said final revolution is substantially straight.
22. The cannula supporting coil of Claim 12 wherein said thin resilient elongated member comprises memory wire.
23. The cannula supporting coil of Claim 12 wherein said thin resilient elongated member comprises Nitinol memory wire.
24. The cannula supporting coil of Claim 12 wherein said thin resilient elongated member is formed of plastic.
25. The cannula supporting coil of Claim 12 wherein said thin resilient elongated member comprises wire having a diameter in a range of 1-5 mm.

26. The cannula supporting coil of Claim 12 wherein said thin resilient elongated member comprises wire having a diameter about 2 mm.
27. The cannula supporting coil of Claim 12 wherein said plurality of revolutions is in a range of 2-5.
28. The cannula supporting coil of Claim 12 wherein said plurality of revolutions comprises 3 revolutions.
29. The cannula supporting coil of Claim 12 wherein said clip portion comprises a loop of said thin resilient elongated member for wrapping around the side port of the cannula.
30. The cannula supporting coil of Claim 12 wherein said clip portion comprises a loop of said thin resilient elongated member for wrapping around the side port of the cannula, said loop having a diameter of about 5mm.
31. A method for delivering and supporting a cannula within an anatomical cavity, comprising the steps of:
  - a) making an incision in the skin of a patient;
  - b) utilizing said incision for inserting a cannula delivery and support system into an anatomical cavity, said cannula delivery and support system, comprising:
    - i. a cannula supporting coil comprising:
      - a thin resilient elongated member, comprising:
        - a) a proximal portion comprising a clip portion for capturing a side port of an endoscopic or arthroscopic cannula;
        - b) an intermediate portion; and,
        - c) a distal portion having a plurality of revolutions to accommodate the main body of the cannula, a terminal portion of a final revolution of said distal portion having less curvature than previous portions of said distal portion for anchoring to an anatomical cavity lining of the anatomical cavity;
    - ii. an elongated sheath for containing said cannula supporting coil during delivery of said cannula supporting coil to the anatomical cavity; and,
    - iii. an elongated trocar having an upper portion and a lower portion, said upper portion having an outer surface slightly smaller than an inner surface of said

elongated sheath, said lower portion having a diameter less than said revolutions of said distal portion of said cannula supporting coil so as to maintain said revolutions of said distal portion of said cannula supporting coil about said lower portion, said lower portion terminating in an atraumatic end;

- c) pulling said elongated trocar out of said elongated sheath;
- d) inverting said elongated trocar and reinserting it into said elongated sheath in said inverted position so that said upper end thereof is utilized as a plunger to push the cannula supporting coil toward a lower end of said elongated sheath so that said terminal portion of said cannula supporting coil anchors to said anatomical cavity lining;
- e) removing said sheath from said anatomical cavity lining leaving said cannula supporting coil within said anatomical cavity;
- f) inserting a cannula into said anatomical cavity within said revolutions; and,
- g) placing said clip portion of said cannula supporting coil about a side port of the cannula.

- 32. The method of Claim 31 wherein said step of inserting a cannula delivery and support system into said anatomical cavity comprises inserting said cannula delivery and support system into a synovial joint.
- 33. The method of Claim 31 wherein said step of inserting a cannula delivery and support system into said anatomical cavity comprises inserting said cannula delivery and support system into an abdominal cavity.
- 34. The method of Claim 31 wherein said step of inserting a cannula delivery and support system into said anatomical cavity comprises inserting said cannula delivery and support system into a thoracic cavity.
- 35. The method of Claim 31 wherein said step of inserting a cannula delivery and support system into said anatomical cavity comprises inserting said cannula delivery and support system into a mediastinal space.
- 36. The method of Claim 31 wherein said step of inserting a cannula delivery and support system into said anatomical cavity comprises inserting said cannula delivery and support system into an epidural space.

37. The method of Claim 31 wherein said step of inserting a cannula delivery and support system into said anatomical cavity comprises inserting said cannula delivery and support system into a pleural space.
38. The method of Claim 31 wherein said step of inserting a cannula delivery and support system into said anatomical cavity comprises inserting said cannula delivery and support system into a subarachnoid space.
39. The method of Claim 31 wherein said step of inserting a cannula delivery and support system into said anatomical cavity comprises inserting said cannula delivery and support system into a heart ventricle.
40. The method of Claim 31 wherein said step of inserting a cannula delivery and support system into said anatomical cavity comprises inserting said cannula delivery and support system into a spinal cavity.